

Appl. No. 10/014,310

REMARKS

Claims 32-40, 42, 43, 47-55, 57, 58, 61, 68-75, and 83 are pending in the application.

Claim 83 stands rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant requests reconsideration. It is unclear from the Office Action whether the Office takes issue with the term "about 17 random" not being identical to the term "17.16 random" described in Fig. 4, the range of values encompassed by using the term "at least," or both.

With regard to "about 17 random," Applicant asserts that the value of "17.16 random" supports "about 17 random." If the Office disagrees, then the Applicant would be willing to amend "about 17 random" to "17.16 random" upon request, but does not do so herein given the above described uncertainty.

If the Office instead or additionally alleges that the range of values encompassed by the term "at least" is not supported in the specification, then Applicant asserts that ample references exist in the present specification to substantially uniform texture, referring to a high level of uniformity for (100) cubic texture. Such description in the specification maybe considered to disclose higher multiples of random than 17.16 shown in Fig. 4. Page 11, lines 23-30 and elsewhere throughout the specification also imply that an increasing advantage exists in the aspects of the claimed inventions with increasing levels of uniformity. Accordingly, "at least about 17 random" merely quantifies one example of a high level of uniformity among (100) texture. The specification inherently supports higher levels of uniformity. At least for the reasons indicated herein, Applicant asserts that the present specification contains a proper

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description adequate to support claim 83. Applicant requests withdrawal of the written description requirement in the next Office Action.

Claims 32-40, 42, 43, 47-55, 57, 58, 61, 68-75 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klose. Applicant requests reconsideration.

Claim 32 sets forth a tantalum disc including about 99.95 wt % tantalum and a substantially uniform {100} crystallographic orientation across a surface of the disc. Pages 3-5 of the Office Action allege that Klose discloses every limitation of claim 32 except for the specific shape being a disc and alleges that such shape is an obvious matter of choice. Applicant traverses.

Pursuant to MPEP 2141.01(a), Applicant asserts that Klose constitutes non-analogous art. That is, page 11, lines 23-30 of the present specification summarizes Applicant's field of endeavor and the particular problem with which the inventors were concerned as relating to sputtering targets and improvement in sputtering target performance, respectively. Page 4 of the Office Action alleges that the tantalum sheet of Klose can be used as a sputtering target. However, the Office Action does not identify any suggestion or motivation in the art for such a use or any technical reasoning supporting the allegation that the tantalum sheet of Klose is suitable as a sputtering target. Applicant notes that Klose is specifically directed to manufacture of spinnerets for the synthetic-fibers industry and that spinnerets do not necessarily lend themselves to suitability as sputtering targets. As known to those of ordinary skill, the process of sputtering removes matter from a target for deposition. A target manufactured with insufficient thickness would be unsuitable since its lifetime would be minimal before the target thickness reduces and begins to produce non-uniform deposition.

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Accordingly, Applicant asserts that Klose is not in the field of Applicant's endeavor and is further not reasonably pertinent to the particular problem with which the inventors were concerned. The technology associated with manufacturing spinnerets in the synthetic-fibers industry does not logically commend itself to an inventor's attention in considering the problem resolved by the advantages described on page 11, lines 23-30 of the present specification. The differences in structure and function between a spinneret and a sputtering target are so broad as to conclude that Klose constitutes non-analogous art. At least for such reason, claim 32 is patentable over Klose.

Page 3 of the Office Action alleges that Klose discloses the claim 32 substantially uniform {100} crystallographic orientation in the abstract of such reference. However, review of the abstract, especially in light of the supporting specification, does not reveal disclosure or suggestion of the claimed limitation. Specifically, while the Abstract refers to "uniform recrystd. texture" and a "(100) plane parallel to the rolling plane," it is not clear that the uniform texture refers to a uniform (100) texture. Applicant did not identify any discussion in the specification of Klose regarding "uniform" texture. Instead, page 5, lines 16-20 and page 7, lines 20-23 of the Klose translation merely refer to "an elevated percentage" of crystallites oriented parallel to the rolling plane or of the "texture component (100) [110]."

First, Applicant asserts that the term "elevated percentage" does not necessarily disclose or suggest "substantially uniform," as set forth in claim 32. Second, the Office Action offers no explanation regarding how the texture component (100) [110] discloses or suggests {100}, as claimed. Applicant notes that, while the (100) lattice plane forms

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a part of the {100} family of lattice planes, the [110] lattice direction is not coplanar with the (100) lattice plane. Accordingly, it is unclear exactly what texture component exhibits an elevated percentage in Klose. At least for the indicated reasons, Applicant asserts that Klose does not disclose or suggest a substantially uniform {100} crystallographic orientation and that claim 32 is patentable over Klose.

Claims 33-37 depend from claim 32 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested. For example, claim 33 sets forth that the disc further includes a maximum tantalum grain size of less than 50 microns at the disc surface. Pages 4-5 of the Office Action allege that the claimed grain size is not patentably distinct from the tantalum alloy of Klose with an average grain size of 8-20 μm .

In the parent application from which the present application depends for priority, Applicant submitted an inventor's declaration establishing the criticality of a maximum grain size less than 50 microns. Such Declaration is included herewith and made of record. Applicant notes that the Declaration includes statements regarding references not presently at issue. However, the Declaration describes the criticality of the claimed grain size at least in paragraphs 6 and 7. Applicant notes that Klose does not disclose or suggest any maximum grain size. Such a deficiency is understandable given the non-analogous nature of Klose with regard to the problem of sputtering target performance addressed by the inventions set forth in the pending claims. Klose only makes mention of average grain size which conventionally inherently includes grains much larger in size than the average value. Accordingly, Applicant asserts that Klose

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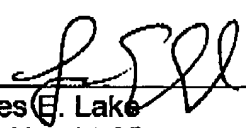
fails to disclose or suggest every limitation of claim 33 and that claim 33 is patentable over Klose.

As may be appreciated from the above discussion regarding the deficiencies of Klose as applied to claims 32 and 33, claims 38-40, 42, 43, 47-55, 57, 58, 61, and 68-75, are patentable over Klose. In addition, Applicant notes that the Office Action does not indicate a prior art rejection with regard to claim 83. Applicant herein establishes adequate reasons supporting patentability of all pending claims and requests allowance of such claims in the next Office Action.

Respectfully submitted,

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By: _____


James E. Lake
Reg. No. 44,854